

**LINCOLN MEMORIAL UNIVERSITY-
DEBUSK COLLEGE OF OSTEOPATHIC
MEDICINE**

DEBUSK SUMMER RESEARCH SCHOLAR AWARD

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Application Checklist

Priority given to applications submitted by 8:00am April 1st. Applications **must be received by 8:00am, May 1st**. If May 1st falls on a weekend, applications will be due at 8:00am the next business day.

The completed application must contain:

- An application form.
- A proposal, completed by the student with help from the sponsor.
- The Research Committee will confirm the applicant meets the following eligibility:
 - OMS I
 - Must be passing all courses.
 - At time of application, must have a cumulative GPA of 3.0 or higher.
 - Must not be on probation for academic or professionalism reasons.
 - Must be on schedule to take COMLEX exams.
- A **letter of support** from the proposed sponsor on institutional letterhead.
- A certificate of completion from the appropriate online training program (CITI training, including modules for Human Subjects or Animal Use or both, if applicable).
 - **NOTE: THIS TRAINING MAY TAKE SEVERAL HOURS. PLEASE PLAN ACCORDINGLY.**
- A budget (see page 12). **Proposals that do not request funds will not be accepted.**

Return materials to:

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Chair of the Research and Grants Committee
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Information for Applicants

The DeBusk Research Scholar Award provides an opportunity for LMU-DCOM medical students to spend the summer working with experienced investigators in an environment devoted to research. The goal of the program is to provide students with an experience that will produce better physicians by acquainting students with scientific methodology. This program is administered by the Research and Grants Committee (RGC), and applications to the program are reviewed by the RGC. Students may only apply for one scholar award per year. Students may not split the awards. Applicants collaborating on projects must submit individually written and unique proposals. Note to faculty mentors: The number of students with scholar awards will be limited to 3 per faculty mentor.

Questions or help?

Please contact any of the individuals listed below.

Dr. Lindsey Miller (Chair)	Lindsey.Miller@lmunet.edu	X5720	DCOMK 235
Dr. Kip Wenger (Co-Chair)	Fred.Wenger@lmunet.edu	X4192	DCOMK 167
Dr. Debasis Mondal	Debasis.Mondal@lmunet.edu	X5715	DCOMK 238
Dr. Bradley Fleenor	Bradley.Fleenor@lmunet.edu	X6429	DCOM 214
Dr. Paula Archer	Paula.Archer@lmunet.edu	X7447	DCOM 123

Choosing a Research Sponsor

To apply for the Basic Science/Clinical Research Scholar award, first select a sponsor. A firm idea for a research project before the student contacts a potential sponsor is not required. The sponsor may suggest one or more projects. The student and the potential sponsor should also discuss who the student will be working with daily. The student and the sponsor should work together to develop a specific, feasible research plan.

The sponsor must be qualified to supervise the project and must provide a letter confirming their support for the project and specifying the amount of time he or she expects to be available to spend with the student. Further, the sponsor must have all the resources needed for the proposed project (e.g., supplies, lab space, or computer access) at the time the application is submitted and indicate this in the letter.

If the student plans to work with humans or other animals, the sponsor's project must have IRB or IACUC protocol approval before the project can begin. If the sponsor does not have these approvals, or the applicant does not provide information about the approvals on the application, the application will not be considered.

If you have specific questions about choosing a sponsor or writing a proposal, please contact the Chair of the RGC. If using email, please put DEBUSK RESEARCH SCHOLAR AWARD in the subject line.

Application Process

Application requirements are described in the following sections. All materials **must** be submitted as a single pdf by email to the LMU-DCOM RGC by 8:00am on May 1st. If May 1st falls on a weekend, applications will be due by 8:00am on the next business day.

APPLICATIONS RECEIVED AFTER THAT DATE WILL NOT BE CONSIDERED.

Priority consideration will be given to applications received by 8:00 a.m. on April 1st.

Review Procedure

The criteria used to review applications is attached as Appendix D. If the committee requests clarification from the applicant, the revised application must be received within one week of the request.

Applicants will be notified of decisions within approximately 2 weeks of the final submission due date.

Stipend

The Scholar Award provides a stipend that may be used for the student's living expenses, with a maximum awarded amount of \$2,000. It is expected that the sponsor will provide costs of any reagents and supplies, equipment, or facilities needed to conduct the research. An itemized budget must be provided (Appendix B). **Funding for travel expenses will not be approved.**

Duration and Expectations of Scholar Award

The Scholar Award project will be performed during the summer break. The actual start and end date will be determined by the applicant and sponsor but must begin no earlier than the last exam of the Spring semester and end no later than the first day of the following Fall semester. It is expected that this experience will be a full-time commitment on the part of the applicant for the duration of the Scholar Award. Specific expectations for time commitment and schedule should be determined and agreed upon between the scholar and faculty mentor.

Failure of scholars to meet expectations may result in referral to Community Standards Committee and/or the Student Progress Committee for professional deficiencies. Please see the DCOM Student Handbook "Committee Procedures for Professionalism Deficiency"

Elements of the Application

Proposal

The proposal must not exceed 1,000 typewritten words in 12-point font, with 1-inch margins (approximately 4 double-spaced pages). The proposal must be written so that it can be understood by non-experts, so avoid jargon and nonstandard abbreviations.

The proposal should contain the following sections:

I) Title Page that includes a project summary paragraph of approximately 200 words.

II) Problem Statement

III) Project Design and Implementation

IV) Potential impact

V) Dissemination Plan.

See Appendix A for more detailed instructions.

Sponsor's Letter of Support

The application must include a letter of support from the proposed sponsor written on an institutional letterhead. This letter should outline:

- The student's level of participation in the study. The sponsor's letter must indicate that the scope of the project is appropriate to the time available. If any preparations are in progress, or if any initial work has been done by the applicant, these should be noted.
- The letter should indicate whether the sponsor will directly supervise the applicant for the full period of the scholar award.
- The sponsor's letter must indicate that the facilities necessary for the project are available to the student. This includes any necessary laboratory facilities, office space, computers, and any other facilities needed to complete the project.
- The sponsor's letter must indicate the general expectations for schedule and time commitment of the scholar, and that the scope of the project is appropriate to the time available.

Itemized Budget

The proposal must include an itemized budget (Appendix B).

- A sufficient explanation of the costs must be provided in the "description" column.
- Large categories or items should be broken down in the "calculation" column.
- Please ask an RG committee member if you have questions about the budget form

Ethical Research Training Certificate (if applicable)

Applicants will be required to complete the CITI online research training modules before beginning the scholar award, which is available at <https://www.citiprogram.org/Default.asp>. A certificate of completion must be included in the application.

Research that involves the use of human subjects, or any data or material obtained from human subjects **must** have an Institutional Review Board (IRB) approval number.

Research that involves the use of vertebrate animals **must** have an Institutional Animal Care and Use Committee (IACUC) protocol number. These approvals should be readily available from your sponsor at the Institution which is sponsoring the research. IACUC approval **must** be submitted to RGC before the research project can begin. If any research activities occur in the absence of appropriate IRB or IACUC approvals, the funding will be withdrawn immediately, and the student may be required to repay the expended amount of the scholar award. See Appendix C for information about these protocols.

Post-Scholar award Scientific Presentation

Progress Report

Mentors should submit a progress report (see Appendix E) by email to the RGC for each student scholar by the first week of July.

Research Forum Presentations

Scholars must give a brief presentation on their research to students and faculty at LMU-DCOM Research Day. Scholars will be encouraged to submit an abstract of their research to a scientific meeting. If the scholar is listed as the first author and the abstract is accepted for the meeting, the student is eligible to apply for funding to present the work. This funding will only be provided for meetings held within the contiguous United States. Only one meeting per year will be funded for each scholar.

Appendix A: Application

LINCOLN MEMORIAL UNIVERSITY-DEBUSK COLLEGE OF OSTEOPATHIC MEDICINE APPLICATION FOR DEBUSK RESEARCH SCHOLAR AWARD

Applicant/Principal Investigator: _____

Project Title: _____

Anticipated start date: _____ **Anticipated end date:** _____

Anticipated weekly time commitment (hours per week): _____

List ALL other sources of income during the grant period and weekly time commitment: _____

Dollar amount of support requested: _____

Does applicant anticipate supporting this project entirely with internal funds?

YES _____

NO _____

a) total duration of project _____
 (must end by August 1)

a) duration of support _____

b) amount of support requested _____

b) amount of external funding _____

Co-investigators (if any):

Approvals:

Most applications will require approval by one or more oversight committees, such as an Institutional Review Board (IRB) where human subjects are involved, the Institutional Animal Care and Use Committee (IACUC) for projects using animals, Institutional Biological and Chemical Safety Committee (IBCSC) for projects in which biohazardous, toxic, or other controlled reagents/substances will be used. Provide information pertaining to these approvals below. SUPPORT CANNOT BEGIN UNTIL ALL REQUIRED CERTIFICATIONS ARE ON FILE.

OVERSIGHT COMMITTEE APPROVAL NEEDED DATE OF APPROVAL

(attach copy of approval notice with Committee chair or other authorized signature)

	NO	YES	DATE OF APPROVAL
Institutional Review Board (IRB)	_____	_____	_____
Animal Welfare Committee (IACUC)	_____	_____	_____
Institutional Biological and Chemical Safety Committee (IBCSC)	_____	_____	_____
CITI Training Certificate	_____	_____	_____
Other Committee (specify below)	_____	_____	_____

Project Description

Provide a brief overview of the proposed project. This narrative should be written so that it is understandable to any of the science or medical school faculty or sitting members of relevant oversight committees. Include a reference cited page (not part of page limits). Do not exceed 1000 words (approximately 4 pages of double-spaced text 12-point font and 1-inch margins). Please include the following sections in your proposal and refer to the rubric in Appendix D for evaluation criteria:

I. Title Page

The title page should contain the project title, faculty sponsor information (name, title, contact information), student information, entities involved in the project (institutions, businesses, investigators, co-investigators), the total amount of funding requested, the estimated project dates, and a paragraph of approximately 200 words summarizing the proposed project.

II. Problem Statement

Be certain to include a clear statement of the specific aims of this project, including any hypothesis to be tested or research questions to be addressed and the contributions to the advancement of science or medicine that this study will make. Include a brief literature review and relate the research to work that has been done in the field already.

III. Project Design and Implementation

Provide a nontechnical overview of the most important methods to be used, the types of data you expect to generate, and the principal means for their evaluation. Address any limitations of the research. Include a timeline for completion of the research with relevant milestones. Report any additional employment planned during the funding period and describe how time requirements for research and additional work will be scheduled.

IV. Potential Impact

State the importance of your research to the scientific discipline and its potential to advance the understanding of science or medicine.

V. Dissemination Plan

Include a plan for disseminating the research results to the scientific community (conference presentations, publications, extramural grant applications, etc.). If possible, state the specific conference and provide dates of the conference. You may specify short term and long-term dissemination strategies if applicable.

VI. Optional Materials

You may wish to include the following as appendices: results of preliminary research, CVs of project personnel, etc.

Append text, on separate pages, to this application as needed.

Appendix B: Itemized Budget Form

Itemized Budget Form

Use the following table as a format for preparing your itemized budget. You may add or omit categories as appropriate for your proposal, but make sure all items are described and a calculation is provided. The primary category used for the DeBusk Scholar award is the “Housing” category. **No travel expenses will be approved. NOTE: STUDENTS MAY NOT SPLIT AWARDS. The maximum awarded amount is \$2000.00**

CATEGORY	DESCRIPTION	CALCULATION	TOTAL AMOUNT
RENT	Specify type of housing	Itemized amount paid for housing for duration of scholar award	
UTILITIES	electricity, water, gas (if not included in rent)	Itemized estimation of these expenses	
GROCERIES			
OTHER	PLEASE SPECIFY AND JUSTIFY EXPENSES IN THIS CATEGORY		
TOTAL BUDGET REQUEST:			

EXAMPLE:

CATEGORY	DESCRIPTION	CALCULATION	TOTAL AMOUNT
RENT	1 BR apartment	\$600/month x 3 months	\$1800

Appendix C:

CITI Training Courses for Lincoln Memorial University

All personnel that work with chemicals or biological agents/products, either for teaching or research, are required by the **LMU Institutional Biological and Chemical Safety Committee** to take online training for **Biosafety/Biosecurity** as supplied by the CITI program in addition to any departmental training that is provided.

All personnel that work with humans in research protocols including surveys are required by the [LMU Institutional Review Board](#) to take online training as supplied by the CITI program. If you file a protocol for human research with IRB, the protocol cannot receive approval until all persons listed including the PI have training for **Human Subjects Research** registered with the IRB in addition to any departmental training that is provided.

All personnel who work with animals, either for teaching or research, are required by the [LMU Institutional Animal Care and Use Committee](#) to take online training as supplied by the CITI program. If you file a protocol for animal use with IACUC, the protocol cannot receive approval until all persons listed including the PI have training for **Laboratory Animal Welfare** registered with the IACUC in addition to any departmental training that is provided.

Instructions:

1. Go to the website <https://www.citiprogram.org/>
2. Register using your LMU credentials.
3. Please choose the appropriate courses depending on your type of research. Course content will be available in several areas:

Q1 – Conflicts of Interest: If you have mixed functions or have financial or other interests in both LMU and with other organizations, then this would be an appropriate module to select. (*This must have an answer to submit a course request*)

Q2- Human Subjects Research: Required for any *studies that use human volunteers* as the test subjects, this includes intra-classroom comparison of teaching methods particularly if the research is intended for publication.

Q3 – Good Clinical Practice: This module is for investigators doing human pharmaceutical research that is overseen by FDA GCP regulations. Currently, there is no GCP research occurring at LMU.

Q4 – Responsible Conduct of Research: Choose the appropriate area of research interests.

Q5 – Laboratory Animal Welfare: This module is required for staff using any live vertebrate animal in teaching or research at LMU. This includes off-site teaching faculty that will have direct contact with animals used in teaching at LMU. Off-site teaching faculty that have classroom-only responsibilities are not required to have CITI training. Select the appropriate role (typically ‘Working with the IACUC’) and any relevant species with which you will be involved.

Q6 – Good Laboratory Practice: This module is for investigators doing pharmaceutical research that is overseen by FDA GLP regulations. Currently, there is no GLP research occurring at LMU.

Q7 – Biosafety/Biosecurity: This module is required for any staff conducting research with

potentially dangerous chemicals or biological organisms/products.

Q8 – Institutional/Signatory Officials & IRB Chair: Students may skip this question.

Q9 – Revised Common Rule: Students may skip this question.

Q10 – Semiannual Evaluations in Depth: Students may skip this question.

Q11 – Mental Health for Higher Ed and Healthcare: Students may skip this question.

Q12 – COVID-19: Back to Campus: Not Required/optional.

All staff involved with any form of research or teaching with animals should at a minimum check box for:

Basic Biosafety Training

Note: you may at any time select Add a Course from your main CITI page and it will take you back to the course selection questionnaire.

Appendix D: Application Evaluation Criteria

APPLICATION EVALUATION CRITERIA

1. Statement of the Problem (Understanding of the problem and its importance)—20%

- Clarity of problem statement and its importance to the field of study.
- Demonstrated connection between problem and proposed research.
- Awareness of the state of current research and/or technology (e.g. does the application include references to primary literature and relate the research to work that has been done in the area?).
- Identification of gaps in existing research.

2. Project Design and Implementation (Quality and technical merit)—40%

- Detailed and complete discussion of proposed research methods.
- Soundness of the research methods and appropriateness to the proposed study.
- Awareness of potential limitations of the research plan and proposed practical solutions.
- Overall feasibility of proposed project, *including timeline*.
- Innovation and creativity.

3. Potential Impact—15%

Potential for a scientific or clinical advance(s) that will improve medical practice, medical education, medical knowledge, or basic science knowledge such as:

- Potential for important advances in the scientific or clinical understanding of the problem.
- Potential for advances in the field and the filling of key gaps in scientific knowledge related to medical practice, policy, or education in the United States.
- Potential to contribute useful basic science knowledge to the primary discipline.
- Relevance for improving clinical policy and practice, patient safety and/or quality of life, or medical education.
- Perceived potential for implementation of new technology, standards, or techniques (when applicable).
- Potential for innovative solution to address (all or a significant part of) the stated problem.

4. Capabilities/Competencies (Capabilities, demonstrated productivity, and experience of the applicant and proposed project staff)—20%

- Qualifications and experience of the researcher and/or research mentor (e.g., successful coursework completion, relevant work and/or research experience, leadership roles, mentoring experience, and record of publication).
- Applicant's record of accomplishment with respect to successful completion of previous research projects, grants, or contracts (if applicable).
- Applicant's record of accomplishment with respect to disseminating results of previous research projects, grants, or contracts (if applicable).
- Applicant's academic standing with the university (student applicants ONLY).

5. Plan for Dissemination to Broader Audiences (5%)

- Does the applicant include a plan for disseminating the research?

- Is the proposed method of disseminating project results effective and feasible?
- Does the plan include conference presentations at regional or national conferences?
Published manuscripts?

6. Submitted by Priority Deadline (0.5% Bonus)

7. Budget (unscored)

Peer reviewers will consider and may comment on the following additional items in the context of scientific and technical merit.

- Format of budget (e.g., is it itemized with descriptions and calculations of costs?)
- Total cost of the project relative to the perceived benefit (cost effectiveness).
- Appropriateness of the budget relative to the level of effort.
- Use of existing resources to conserve costs.
- Proposed budget alignment with proposed project activities.

APPENDIX E

PROGRESS REPORT TEMPLATE

*Completed by mentors, submitted to RGC by first week of August.

Grant Title: _____

Name of scholar receiving the award: _____

Research Sponsor _____

Amount of Award: _____

Project Start Date: _____

Has the scholar met all expectations for this project and has made acceptable progress towards the goals stated in the scholar award application?

_____ Yes

_____ No

If no, please explain how these deficiencies will be addressed: